

FINAL REPORT  
NAGW-4870

"LONG-DURATION, BALLOON-BORNE OBSERVATIONS OF  
COSMIC MICROWAVE BACKGROUND ANISOTROPY"

Funds from this grant were used to support the continuing development of BOOMERANG, a 1.3 m, balloon-borne, attitude-stabilized telescope designed to measure the anisotropy of the Cosmic Microwave Background (CMB) on angular scales of 12' to 10 degrees.

By the end of the funding period covered by this grant, the fabrication of most of the BOOMERANG sub-systems was completed, and integration and test of the payload at Caltech had begun.

The project was continued under a new grant from NASA and continuing funding from the NSF. Payload integration and test was completed in April, 1997. A campaign to Palestine, Texas, resulted in two test flights during 1997. A flight on August 12, 1997 was terminated on ascent due to a leaky balloon. The payload was successfully recovered, refurbished, and flown again on August 29, 1997. The second flight was completely successful, and qualified the payload for an LDB flight from McMurdo Str., Antarctica, in December 1998.